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10/697,950	10/31/2003	Thomas M. Golner	87304.1980	7624

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EXAMINER

BHAT, NINA NMN

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PAPER

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EXAMINER

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37 CFR 41.37(c)(v) requires "[a] concise explanation of the subject matter defined in each of the independent claims involved in the appeal, which shall refer to the specification by page and line number, and to the drawing, if any..." Attached is mapping of the claims.

Encl: Section V of Appeal Brief - pursuant to 37 CFR 41.37 (c) (v)

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Primary Examiner
Art Unit: 1797

1. A gas remover to control an environment in a load tap changer (10), the gas remover comprising:
 - a source of substantially nonreactive gas(18) at a pressure greater than ambient atmospheric pressure;
 - a feed line(32) configured to introduce the nonreactive gas into an ullage in the load tap changer;
 - a sight glass(14) on the load tap changer(10) to permit examination of the inside of the load tap changer, wherein the load tap changer contains mineral oil; and
 - an orifice (138) configured to establish a substantially continuous outflow rate of nonreactive gas to expel entrained vapor phase contaminants from the ullage (142) in the load tap changer-to the atmosphere. [Note the Specification, Page 6, paragraph [0022], Page 8, Paragraph [0028] and Figure 1]
2. The gas remover of claim 1, wherein the gas remover further comprises a nitrogen generator(18) configured to extract nitrogen from the atmosphere for use as the substantially nonreactive gas.[Note the Specification Page 8, paragraph [0028]]
3. The gas remover of claim 2, wherein the gas remover further comprises an inlet air filtration system(26) to filter air entering said nitrogen generator.[Note the Specification Page 7, paragraph[0024] and Figure1]
4. The gas remover of claim 2, wherein the gas remover further comprises an air Compressor (20) to furnish compressed air to said nitrogen generator(18). [Note the Specification Page 7, paragraph [0024] and Figure 1]

5. The gas remover of claim 2, wherein the gas remover further comprises a gas separating membrane within said nitrogen generator, wherein said separating membrane is capable of removing gases including at least one of ozone, carbon compounds, sulfur dioxide, and hydrogen sulfide from the outflow stream from said nitrogen generator to limit each contaminant to a maximum of 1 part per million of the mass of the outflow gas.[Originally filed claim]

6. The gas remover of claim 2, wherein the gas remover further comprises a gas separating membrane within said nitrogen generator, wherein said separating membrane is capable of removing gases including at least one of oxygen and water vapor from the outflow stream from said nitrogen generator to limit each contaminant to a levels specified by the American Society of Testing and Materials (ASTM) for Type I insulating gas.[Originally filed claim]

7. The gas remover of claim 2, wherein the gas remover further comprises a storage reservoir within said nitrogen generator(18) configured to store nitrogen(28) during an operational period for said nitrogen generator. [Note Specification, Page 9 paragraph [0030] and Figure 1]

8. The gas remover of claim 2, wherein the gas remover further comprises a pressure regulator (24) in the feed line from said nitrogen generator (18) to the load tap changer ullage to lower the nitrogen pressure from a first pressure level at which the nitrogen is generated and stored to a second pressure level at which it is introduced into the load tap changer ullage (34).[Note Specification Page 7, paragraph [0024] and Figure 1]

9. The gas remover of claim 1, wherein the gas remover further comprises a gas flow path that establishes an effective output venting rate (26) from the load tap changer ullage to a standard atmosphere. [Note the specification Page 12, paragraph [0035] and Figure 1]

10. The gas remover of claim 1, wherein the venting rate is dependent on total gas pressure within the ullage(34).[Note the Specification Page 12, paragraph[0035] and Figure 1]

11. The gas remover of claim 1, wherein the gas remover further comprises a gas flow path establishing an output venting rate from the load tap changer ullage to the atmosphere surrounding the load tap changer of approximately 2 cubic feet of nitrogen per day.[Note the Specification Page 10, paragraph [0031]]

12. The gas remover of claim 2, wherein the gas remover further comprises an alternative pressure regulation facility in the feed line from said nitrogen generator to the load tap changer ullage, which alternative pressure regulation facility provides an increased flow rate from the nitrogen section to the load tap changer ullage during a venting cycle.[Note the Specification, Pages 9-10, paragraph [0030]]

13. The gas remover of claim 2, wherein the gas remover further comprises an alternative pressure regulation facility in the feed line from said nitrogen generator(18) to the load tap changer ullage, which alternative pressure regulation facility provides an increased flow rate from the load tap changer ullage to the atmosphere during a venting cycle. [Note the Specification, Pages 9-10, paragraph [0030] and Figure 1]

14. The gas remover of claim 1, wherein the gas remover further comprises a control mechanism to permit manual selection of said alternative pressure regulation facility.

15. The gas remover of claim 1, wherein the gas remover further comprises an automatic control mechanism to permit pressure-regulated engagement of said alternative pressure regulation facility. [Note the Specification, Pages 9-10, paragraph [0030]]

16. The gas remover of claim 1, wherein the gas remover further comprises a check valve(50) between said orifice (38) and the atmosphere.[Note the Specification Page 9, paragraph [0030], Figure 3 and Figure 4]

17. (Cancelled)

18. The gas remover of claim 1, wherein the gas remover further comprises a fill gas other than nitrogen.[Note the Specification, Pages 12-13, paragraph [0037]]

19. (Cancelled)

20. A gas remover to control an environment in a load tap changer, comprising:
means for extracting nitrogen gas from the atmosphere;
means for urging said extracted nitrogen gas into an ullage(22) in the load tap changer;
means for monitoring the condition inside the load tap changer(10), wherein the load tap changer contains mineral oil; and means for expelling vapor phase contaminants from the ullage in the load tap changer(10) by establishing a substantially continuous outflow of nitrogen. [Note the Specification, Page 4, paragraph [11] and Figure 1]

21. The gas remover of claim 20, further comprising:
means for filtering (26) atmospheric air introduced into said nitrogen generator; and
means for compressing atmospheric air introduced into said nitrogen generator to a
pressure level sufficient to extract nitrogen therefrom.[Note Specification, Page 7,
paragraph [0024] and Figure 1]

22. The gas remover of claim 20, further comprising means for separating gaseous
nitrogen from the compressed atmospheric air (20) introduced into said nitrogen
generator (18).[Note the Specification, Page 7, paragraph[0024] and Figure 1]

23. The gas remover of claim 20, further comprising:
means for applying power to said compressing means; means for controlling application
of power to said compressing means; and means for establishing pressure thresholds at
which power directed to said compressing means may be applied and removed.[Note
the Specification Page 7, paragraph[0024]]

24. A process for controlling an environment in a load tap changer, comprising the
steps of:
extracting nitrogen gas from the atmosphere;
urging the extracted nitrogen gas into an ullage in the load tap changer;
monitoring the condition inside the load tap changer, wherein the load tap changer
contains mineral oil; and expelling vapor phase contaminants from the ullage in the load
tap changer by establishing a substantially continuous outflow of nitrogen.[Note the
Specification Page 6, paragraph[0022], Page 8, paragraph[0028] and Figure 1]

25. The gas removal process of claim 24, further comprising the steps of: filtering atmospheric air in advance of extracting nitrogen therefrom; and compressing atmospheric air to a pressure level sufficient to extract nitrogen therefrom.[Note the Specification, Page 8, Paragraph [0028]]

26. The gas removal process of claim 24, further comprising the step of separating gaseous nitrogen from the compressed atmospheric air.[Note the Specification, Page 7, paragraph[0024]]